

2.4.1 Sources	27
2.4.2 Amplifiers	27
2.4.3 Delay	28
2.4.4 Time Reversal.....	28
Exercise 2.6.1	28
2.4.5 Derivative Systems and Integrators	29
2.4.6 Linear Systems.....	29
2.4.7 Time-Invariant Systems	30
2.5 Signals and Systems Problems	32
Problem 2.1: Complex Number Arithmetic	32
Problem 2.2: Discovering Roots	32
Problem 2.3: Cool Exponentials	32
Problem 2.4: Complex-valued Signals	33
Problem 2.5:	34
Problem 2.6:	35
Problem 2.7: Linear, Time-Invariant Systems	36
Problem 2.8: Linear Systems	37
Problem 2.9: Communication Channel	37
Problem 2.10: Analog Computers	38
2.6 Solutions to Exercises in Chapter 2	38
Chapter 3 Analog Signal Processing	40
3.1 Voltage, Current, and Generic Circuit Elements	40
Exercise 3.1.1	41
3.2 Ideal Circuit Elements	41
3.2.1 Resistor	42
3.2.2 Capacitor	42
3.2.3 Inductor	43
3.2.4 Sources	44
3.3 Ideal and Real-World Circuit Elements	44
3.4 Electric Circuits and Interconnection Laws.....	45
3.4.1 Kirchhof's Current Law	46
Exercise 3.4.1	47
3.4.2 Kirchhof's Voltage Law (KVL)	47
Exercise 3.4.2	48
3.5 Power Dissipation in Resistor Circuits	48
Exercise 3.5.1	50
Exercise 3.5.2	50
3.6 Series and Parallel Circuits	50
Exercise 3.6.1	52
Exercise 3.6.2	54
Example 3.1	55
Exercise 3.6.3	56
3.7 Equivalent Circuits: Resistors and Sources.....	57
Exercise 3.7.1	59
Example 3.2	59
Exercise 3.7.2	61